

Work Order ID 145662
Friday, May 06, 2016 10:37:34 AM

145662

Item ID: D4464-041 Accept *N9000040100* Setup Start *NS1*
Revision ID: Fuel Tank Assembly Stop *NS2*
Item Name: Start Date: 5/9/2016 Start Qty: 1.00 *1*
Required Date: 5/31/2016 Req'd Qty: 1.00 *1*
Reference: Cust Item ID:
Customer:

Approvals: Process Plan: Date: Tooling: Date: Run Start *NR1*
QC: Date: SPC (Y/N): Date: Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D4464	H								

100 Weld per dwg A/R Aluminum rod Batch: #131562 DAS 43 SEP 06 2016
Large Fab Memo 3.19
1- Weld D4023-3 cap as per dwg D4464

Achtung!
Vor Einbau Sicherungstift herausnehmen
remove safety pin before installation
Atenção!
Remova o pino de segurança antes de montar

110 QC9- Inspect visual per QSI004- Fusion Welds 0.00
QC *110* Memo 0.00
Quality Control

112 Small Fab 0.00
Small Fab Memo 1.15
1- Wet install baffles to front and back panel using rivet and Proseal as per dwg
A/R Proseal Batch: #134500
DAS 38 16/09/06 9:06

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

Work Order update only

QA Closed:

Date:

DISPOSITION						AGAINST DEPARTMENT/PROCESS						
Work Order: _____ Part No. _____ NCR No.			Suspected Unapproved Rework Scrap Use-as-is	Skid-tube Machining Thermoforming Large Fab	Cross tube Small Fab Finishing Composite	Water Jet Prod. Eng. Coord. Rec/Store/Packaging Supplier	Engineering Quality Other					
Date:	Step #:	QTY Effective :								MRB (QSIO42) Approval		
Description Work Order Deviation									Disposition			
									Completed By			
									Lead hand / Supervisor Approval Verification			
									QC / QA Coordinator Approval			

Root Cause

Environment	No Re-verification	Pressure/Forced	Temperature/Cure	Power Loss/Surge	Positioned Wrong
Design	Operator	Bending	Set-up	Folio/Program	Outside Dimensions
Doc/Data	Offset/Set up	Centre Not Concentric	BOM/Route	Grain	Over/Under Tolerance
Equip/Tooling	Supplier	Cracks	Broken/Damage/Defect	Weld	Part Incorrect
Handling/Pre	Training	Crimp/Kink/Ripple/Wave	Inspection Incomplete/Unqualified	Wrong Stock Pulled	Part Lost/Missing
Material	Use for Testing	Cuffs	Contamination	Out of Sequence	Part Moved
Internal Transport	Poor Information	Crushing	Countersink	Off-set	Drawing
Tribal Knowledge	Rushing	Heat Treat	Cut Too Short	Mislabeled	Finish
LOA	Product Improvement	Wave/Twist in Tube	Instructions Incomplete/Unclear	Fit/Function	Misread
Substation	Process Improvement	Marks/Chatter	Drill Holes	Mismatched/off center	Turning Sequence
Past Expiry Date	Manufacturing Process				
Misidentified	Past Due				

OTHER : _____

Work Order ID 145662
Friday, May 06, 2016 10:37:34 AM

145662

Page 2

Item ID: D4464-041

Accept

N9000040100

Setup Start

N.S.1

Revision ID:

Item Name: Fuel Tank Assembly

Stop

N.S.2

Start Date: 5/9/2016

Start Qty: 1.00

1

Cust Item ID:

Required Date: 5/31/2016

Req'd Qty: 1.00

1

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run

Start

N.R.1

QC:

Date:

SPC (Y/N):

Date:

Stop

N.R.2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID Tool # Plan
Code

Accept Qty

Reject Qty

Reject Number

Insp. Stamp

114

QC5- Inspect part completeness to step on W/O

0.00

112

QC

Memo

0.02

Quality Control

1

16-03-26



DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____

Date: _____

Work Order update only

Work Order: _____		DISPOSITION		AGAINST DEPARTMENT/PROCESS			
Part No. _____		Rework Scrap Use-as-is Suspected Unapproved		Cross tube Small Fab Finishing Composite		Water Jet Prod. Eng. Coord. Rec/Store/Packaging Supplier	
NCR No. _____		Step #: _____		QTY Effective : _____		MRB (QS1042) Approval	
Date : _____		Description Work Order Deviation		Disposition			
Completed By		Lead hand / Supervisor Approval Verification		QC / QA Coordinator Approval			
Root Cause		FAULT CATEGORY					
Environment	No Re-verification	Pressure/Forced	Temperature/Cure	Power Loss/Surge	Positioned Wrong		
Design	Operator	Bending	Set-up	Folio/Program	Outside Dimensions		
Doc/Data	Offset/Setup	Centre Not Concentric	BOM/Route	Grain	Over/Under tolerance		
Equip/Tooling	Supplier	Cracks	Broken/Damage/Defect	Weld	Part Incorrect		
Handling/Pre	Training	Crimp/Kink/Ripple/Wave	Inspection Incomplete/Unqualified	Wrong Stock Pulled	Part Lost/Missing		
Material	Use for Testing	Cuffs	Contamination	Out of Sequence	Part Moved		
Internal Transport	Poor Information	Crushing	Countersink	Off-set	Drawing		
Tribal Knowledge	Rushing	Heat Treat	Cut Too Short	Mislabeled	Finish		
LOA	Product Improvement	Wave/Twist in Tube	Instructions Incomplete/Unclear	Fit/Function	Misread		
Substation	Process Improvement	Marks/Chatter	Drill Holes	Misaligned/off center	Turning Sequence		
Past Expiry Date	Manufacturing Process						
Misidentified	Past Due						
OTHER : _____							

Work Order ID 145662
Friday, May 06, 2016 10:37:34 AM

145662

Page 3

Item ID: D4464-041

Accept

N9000040100

Setup Start

NS1

Revision ID:

Item Name: Fuel Tank Assembly

Stop *NS2*

Start Date: 5/9/2016 Start Qty: 1.00

1

Cust Item ID:

Required Date: 5/31/2016 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run

Start

NR1

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

120 Weld per dwg A/R. Aluminum rod Batch: 4131562.00

120
Large Fab

Memo

2.42

1- Weld D4001-1 and D4000-5 onto D4463-1 Top

2- Weld D3999-041/-043 doubler, ensure doubler and angle holes line-up for D4000-047
Transfer drill and c'link D4975-1 bracket to bottom bracket, wet install as per dwg

Proseal 890B Batch: 17135390

3- Weld D4000-043 and D4000-045 on tank as per dwg.

4- Instal D4000-9 grommets as per dwg. Weld D4463-3 aft end as per dwg. locate D4000-1 and wet install with rivets as per dwg. ***D4000-1 FLAT SURFACE MUST BE INSTALL UPWARDS AS PER DWG***

Proseal 890B Batch: 17135390

5- Instal hinge wet with proseal as per dwg
A/R Proseal 890B Batch: 17135390

6- Weld D4463-7 fwd end

PURGE INSIDE OF TANK

7- Weld top D4463-1 using DT9811 and DT9810

DAS 43 SEP 14 2016 9:59

16/09/08 DAS 36 9:59

DQA:

Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed:

Date: _____

Work Order update only

☐

Work Order: _____		DISPOSITION		AGAINST DEPARTMENT/PROCESS				MRB (QSI042) Approval																																																																																																																																																																																																																																																																											
Part No. _____		Rework Scrap Use-as-is Suspected Unapproved		Skid-tube Machining Thermoforming Large Fab		Cross tube Small Fab Finishing Composite		Water Jet Prod. Eng. Coord. Rec/Store/Packaging Supplier																																																																																																																																																																																																																																																																											
NCR No. _____																																																																																																																																																																																																																																																																																			
Date: _____		Step #: _____		QTY Effective: _____																																																																																																																																																																																																																																																																															
Description Work Order Deviation				Disposition																																																																																																																																																																																																																																																																															
								Completed By																																																																																																																																																																																																																																																																											
								Lead hand / Supervisor Approval Verification																																																																																																																																																																																																																																																																											
								QC / QA Coordinator Approval																																																																																																																																																																																																																																																																											
<table border="1"> <tr> <th colspan="4">Root Cause</th> <th colspan="10">FAULT CATEGORY</th> </tr> <tr> <td>Environment</td> <td>No Re-verification</td> <td>Pressure/Forced</td> <td>Temperature/Cure</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Design</td> <td>Operator</td> <td>Bending</td> <td>Set-up</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Doc/Data</td> <td>Offset/Setup</td> <td>Centre Not Concentric</td> <td>BOM/Route</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Equip/Tooling</td> <td>Supplier</td> <td>Cracks</td> <td>Broken/Damage/Defect</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Handling/Pre</td> <td>Training</td> <td>Crimp/Kink/Ripple/Wave</td> <td>Inspection Incomplete/Unqualified</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Material</td> <td>Use for Testing</td> <td>Cuffs</td> <td>Contamination</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Internal Transport</td> <td>Poor Information</td> <td>Crushing</td> <td>Countersink</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Tribal Knowledge</td> <td>Rushing</td> <td>Heat Treat</td> <td>Cut Too Short</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>LOA</td> <td>Product Improvement</td> <td>Wave/Twist in Tube</td> <td>Instructions Incomplete/Unclear</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Substation</td> <td>Process Improvement</td> <td>Marks/Chatter</td> <td>Drill Holes</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Past Expiry Date</td> <td>Manufacturing Process</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Misidentified</td> <td>Past Due</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>										Root Cause				FAULT CATEGORY										Environment	No Re-verification	Pressure/Forced	Temperature/Cure																		Design	Operator	Bending	Set-up																		Doc/Data	Offset/Setup	Centre Not Concentric	BOM/Route																		Equip/Tooling	Supplier	Cracks	Broken/Damage/Defect																		Handling/Pre	Training	Crimp/Kink/Ripple/Wave	Inspection Incomplete/Unqualified																		Material	Use for Testing	Cuffs	Contamination																		Internal Transport	Poor Information	Crushing	Countersink																		Tribal Knowledge	Rushing	Heat Treat	Cut Too Short																		LOA	Product Improvement	Wave/Twist in Tube	Instructions Incomplete/Unclear																		Substation	Process Improvement	Marks/Chatter	Drill Holes																		Past Expiry Date	Manufacturing Process																				Misidentified	Past Due																			
Root Cause				FAULT CATEGORY																																																																																																																																																																																																																																																																															
Environment	No Re-verification	Pressure/Forced	Temperature/Cure																																																																																																																																																																																																																																																																																
Design	Operator	Bending	Set-up																																																																																																																																																																																																																																																																																
Doc/Data	Offset/Setup	Centre Not Concentric	BOM/Route																																																																																																																																																																																																																																																																																
Equip/Tooling	Supplier	Cracks	Broken/Damage/Defect																																																																																																																																																																																																																																																																																
Handling/Pre	Training	Crimp/Kink/Ripple/Wave	Inspection Incomplete/Unqualified																																																																																																																																																																																																																																																																																
Material	Use for Testing	Cuffs	Contamination																																																																																																																																																																																																																																																																																
Internal Transport	Poor Information	Crushing	Countersink																																																																																																																																																																																																																																																																																
Tribal Knowledge	Rushing	Heat Treat	Cut Too Short																																																																																																																																																																																																																																																																																
LOA	Product Improvement	Wave/Twist in Tube	Instructions Incomplete/Unclear																																																																																																																																																																																																																																																																																
Substation	Process Improvement	Marks/Chatter	Drill Holes																																																																																																																																																																																																																																																																																
Past Expiry Date	Manufacturing Process																																																																																																																																																																																																																																																																																		
Misidentified	Past Due																																																																																																																																																																																																																																																																																		
								OTHER: _____																																																																																																																																																																																																																																																																											

Work Order ID 145662

Friday, May 06, 2016 10:37:34 AM

145662

Item ID: D4464-041

Revision ID:

Item Name: Fuel Tank Assembly

Start Date: 5/9/2016 Start Qty: 1.00

Required Date: 5/31/2016 Req'd Qty: 1.00

Reference:

Accept

N9000240100

Setup Start

NS1

Stop

NS2

Cust Item ID:

Customer:

Approvals: Process Plan: _____

Date: _____

Tooling:

Date: _____

QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Run

Start

NR1

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID Tool # Plan
Code

Accept
Qty

Reject
Qty

Reject
Number Insp.
Stamp

PURGE INSIDE OF TANK

123 QC5- Inspect part completeness to step on W/O 0.00

123

QC

Memo

Pressure Test as per dwg D4464

Das
9
0.00

140 QC9- Inspect visual per QSI004- Fusion Welds 0.00

140

QC

Memo

Das
9
0.00

Quality Control

Date:

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed:

Date:

Work Order update only

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION ☐ Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐ Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other		AGAINST DEPARTMENT/PROCESS			
Date : _____		Step #: _____		QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By		Lead hand / Supervisor Approval Verification	
Root Cause		FAULT CATEGORY		Positioning Wrong Outside Dimensions Over/Under tolerance Part Incorrect Part Lost/Missing Part Moved Drawing Finish Misread Turning Sequence		QC / QA Coordinator Approval	
Environment Design Doc/Data Equip/Tooling Handling/Pre Material Internal Transport Tribal Knowledge LOA Substation Past Expiry Date Misidentified		No Re-verification Operator Offset/Setup Supplier Training Use for Testing Poor Information Rushing Product Improvement Process Improvement Manufacturing Process Past Due		Pressure/Forced Bending Centre Not Concentric Cracks Crimp/Kink/Ripple/Wave Cuffs Crushing Heat Treat Wave/Twist in Tube Marks/Chatter		Temperature/Cure Set-up BOM/Route Broken/Damage/Defect Inspection Incomplete/Unqualified Contamination Countersink Cut Too Short Instructions Incomplete/Unclear Drill Holes	
Power Loss/Surge Folio/Program Grain Weld Wrong Stock Pulled Out of Sequence Off-set Mislabeled Fit/Function Misaligned/off center		OTHER : _____					

Work Order ID 145662
Friday, May 06, 2016 10:37:34 AM

145662

Item ID: D4464-041 Accept *N9000040100* Setup Start *NS1*
Revision ID: Item Name: Fuel Tank Assembly Stop *NS2*
Start Date: 5/9/2016 Start Qty: 1.00 *1*
Required Date: 5/31/2016 Req'd Qty: 1.00 *1*
Reference: Customer: Cust Item ID:

Approvals: Process Plan: Date: Tooling: Date: Run Start *NR1*
QC: Date: SPC (Y/N): Date: Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
143	Outsource process - NDT per OSI038 4.1	0.00				1	OCT 07 2016		DAS 13 9-89
143	Outsource2	180.00				1	OCT 19 2016		DAS 13 9-89
	Outsource process - NDT								
	Memo								
	ISSUE P/O: 33844								
	LPI INSPECTION								
	C OF C IS REQUIRED								

145 Receive & Inspect for Damage & Mat'l Certs 0.00
145 Packaging Memo 0.02
Packaging

148016-10-11

147 QC- Inspect part completeness to step on W/O 0.00
147 QC Memo 0.02
Quality Control

148016-10-19

148016-10-19
DAS 9 9-89

Date:

Date:

WORK ORDER NON-CONFORMANCE / UPDATE

Work Order update only



Work Order: 145662		DISPOSITION		AGAINST DEPARTMENT/PROCESS								
Part No. D4464-041		Suspected Unapproved		Rework	Skid-tube	Cross tube	Water Jet	Engineering				
NCR No.		Use-as-is		Scrap	Machining	Small Fab	Prod. Eng. Coord.	Quality				
		Unapproved			Thermoforming	Finishing	Rec/Store/Packaging	Other				
Date:	Step #:	QTY Effective :		DMSB (QS1042) Approval 9/16/19								
Description Work Order Deviation		Disposition		Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval								
change to OCL												
Root Cause				FAULT CATEGORY								
Environment	No Re-verification	Pressure/Forced	Temperature/Cure	Power Loss/Surge	Positioned Wrong							
Design	Operator	Bending	Set-up	Folio/Program	Outside Dimensions							
Doc/Data	Offset/Setup	Centre Not Concentric	BOM/Route	Grain	Over/Under tolerance							
Equip/Tooling	Supplier	Cracks	Broken/Damage/Defect	Weld	Part Incorrect							
Handling/Pre	Training	Crimp/Kink/Ripple/Wave	Inspection Incomplete/Unqualified	Wrong Stock Pulled	Part Lost/Missing							
Material	Use for Testing	Cuffs	Contamination	Out of Sequence	Part Moved							
Internal Transport	Poor Information	Crushing	Countersink	Off-set	Drawing							
Tribal Knowledge	Rushing	Heat Treat	Cut Too Short	Mislabeled	Finish							
LOA	Product Improvement	Wave/Twist in Tube	Instructions incomplete/Unclear	Fit/Function	Misread							
Substation	Process Improvement	Marks/Chatter	Drill Holes	Mismatched/off center	Turning Sequence							
Past Expiry Date	Manufacturing Process											
Misidentified	Past Due											
OTHER :												

Work Order ID 145662
Friday, May 06, 2016 10:37:34 AM

145662

Item ID: D4464-041 Accept *N9000040100* Setup Start *NS1*
Revision ID: Item Name: Fuel Tank Assembly Stop *NS2*
Start Date: 5/9/2016 Start Qty: 1.00 Cust Item ID:
Required Date: 5/31/2016 Req'd Qty: 1.00 Customer:
Reference:

Approvals: Process Plan: Date: Tooling: Date: Run Start *NR1*
QC: Date: SPC (Y/N): Date: Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
150	Chemical Conversion Coat per OSI005 4.1	0.00							
150	Memo	1.22							
Hand Finish	1- Alodine on tank. No alodine inside								

160	QC7-Inspect Chemical Conversion Coat	0.00							
160	Memo	0.01							
QC									
Quality Control									

164

164

Small Fab

Small Fab

Memo

1- Brush Proseal 890A on all internal sheet metal folds
Proseal 8990A Batch: 135370

2- Assemble as per dwg and for D4577-041/-3/-5 access panels install wet with
proseal 890B

A/R Proseal 890B Batch: 135370

16-0-19 10

16/10/17

16/10/19

16/10/19

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____ Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____ Date: _____	Step #: _____ QTY Effective: _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐ Skid-tube Machining ☐ Thermoforming Large Fab ☐ Cross tube Small Fab ☐ Finishing Composite ☐ Water Jet Prod. Eng. Coord. ☐ Rec/Store/Packaging Supplier ☐ Engineering Quality ☐ Other ☐	AGAINST DEPARTMENT/PROCESS Cross tube Small Fab ☐ Finishing Composite ☐ Water Jet Prod. Eng. Coord. ☐ Rec/Store/Packaging Supplier ☐ Engineering Quality ☐ Other ☐	MRB (QS1042) Approval _____
Description Work Order Deviation _____		Disposition _____		Completed By _____
_____		_____		Lead hand / Supervisor Approval Verification _____
_____		_____		QC / QA Coordinator Approval _____

FAULT CATEGORY									
Root Cause		Pressure/Forced		Temperature/Cure		Power Loss/Surge		Positioned Wrong	
Environment	No Re-verification	Bending	Set-up	Folio/Program	Outside Dimensions	Cracks	BOM/Route	Grain	Over/Under tolerance
Design	Operator	Centre Not Concentric	Broken/Damage/Defect	Weld	Part Incorrect	Material	Inspection Incomplete/Unqualified	Wrong Stock Pulled	Part Lost/Missing
Doc/Data	Offset/Setup	Cuffs	Crimp/Kink/Ripple/Wave	Crushing	Out of Sequence	Internal Transport	Contamination	Off-set	Part Moved
Equip/Tooling	Supplier	Heat Treat	Cuffs	Wave/Twist in Tube	Mislabeled	Tribal Knowledge	Countersink	Fit/Function	Drawing
Handling/Pre	Training	Marks/Chatter	Crushing	Wave/Twist in Tube	Misread	LOA	Cut Too Short	Misaligned/off center	Finish
Material	Use for Testing	OTHER :	Heat Treat	Wave/Twist in Tube	Turning Sequence	Substation	Instructions Incomplete/Unclear	Misaligned/off center	Misread
Internal Transport	Poor Information	OTHER :	Heat Treat	Wave/Twist in Tube	Turning Sequence	Past Expiry Date	Instructions Incomplete/Unclear	Misaligned/off center	Misread
Tribal Knowledge	Rushing	OTHER :	Heat Treat	Wave/Twist in Tube	Turning Sequence	Misidentified	Instructions Incomplete/Unclear	Misaligned/off center	Misread
LOA	Product Improvement	OTHER :	Heat Treat	Wave/Twist in Tube	Turning Sequence	Misidentified	Instructions Incomplete/Unclear	Misaligned/off center	Misread
Substation	Process Improvement	OTHER :	Heat Treat	Wave/Twist in Tube	Turning Sequence	Misidentified	Instructions Incomplete/Unclear	Misaligned/off center	Misread
Past Expiry Date	Manufacturing Process	OTHER :	Heat Treat	Wave/Twist in Tube	Turning Sequence	Misidentified	Instructions Incomplete/Unclear	Misaligned/off center	Misread
Misidentified	Past Due	OTHER :	Heat Treat	Wave/Twist in Tube	Turning Sequence	Misidentified	Instructions Incomplete/Unclear	Misaligned/off center	Misread

Work Order ID 145662
Friday, May 06, 2016 10:37:34 AM

145662

Item ID: D4464-041 Accept *N9000040100* Setup Start *NS1*
Revision ID: Item Name: Fuel Tank Assembly Stop *NS2*
Start Date: 5/9/2016 Start Qty: 1.00 *1*
Required Date: 5/31/2016 Req'd Qty: 1.00 *1*
Reference: Customer: Cust Item ID:

Approvals: Process Plan: Date: Tooling: Date: Run Start *NR1*
QC: Date: SPC (Y/N): Date: Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
169	QC5- Inspect part completeness to step on W/O	0.00							
169	Memo	0.02							DAS 9 9-89
QC									
Quality Control									

170
170
SprayPaint
Spray Painting
Memo
MASK PROIOR PRIME AND PAINT AS PER DWG
PRIME TEMPO GREY AS PER DWG AND OSI
PRIMER BATCH: 134518

PAINT FLAT GREY AS PER DWG AND OSI
PAINT BATCH: 134107

1
6-11-16

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION ☐ Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐ Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier		AGAINST DEPARTMENT/PROCESS		Engineering ☐ ☐ ☐ ☐ Quality ☐ ☐ ☐ ☐ Other ☐ ☐ ☐ ☐	
Date : _____		Step #: _____		QTY Effective : _____			
Description Work Order Deviation		Disposition					
		Completed By					
		Lead hand / Supervisor Approval Verification					
		QC / QA Coordinator Approval					
MRB (QS1042) Approval							

Root Cause										FAULT CATEGORY																																									
☐ Environment	☐ Design	☐ Doc/Data	☐ Equip/Tooling	☐ Handling/Pre	☐ Material	☐ Internal Transport	☐ Tribal Knowledge	☐ LOA	☐ Substation	☐ Past Expiry Date	☐ Misidentified	☐ No Re-verification	☐ Operator	☐ Offset/Setup	☐ Supplier	☐ Training	☐ Use for Testing	☐ Poor Information	☐ Rushing	☐ Product Improvement	☐ Process Improvement	☐ Manufacturing Process	☐ Past Due	☐ OTHER :																											
												☐ Pressure/Forced	☐ Bending	☐ Centre Not Concentric	☐ Cracks	☐ Crimp/Kink/Ripple/Wave	☐ Cuffs	☐ Crushing	☐ Heat Treat	☐ Wave/Twist in Tube	☐ Marks/Chatter	☐ Temperature/Cure	☐ Set-up	☐ BOM/Route	☐ Broken/Damage/Defect	☐ Inspection Incomplete/Unqualified	☐ Contamination	☐ Countersink	☐ Cut Too Short	☐ Instructions Incomplete/Unclear	☐ Drill Holes	☐ Power Loss/Surge	☐ Folio/Program	☐ Grain	☐ Weld	☐ Wrong Stock Pulled	☐ Out of Sequence	☐ Off-set	☐ Mislabeled	☐ Fit/Function	☐ Misaligned/off center	☐ Positioned Wrong	☐ Outside Dimensions	☐ Over/Under tolerance	☐ Part Incorrect	☐ Part Lost/Missing	☐ Part Moved	☐ Drawing	☐ Finish	☐ Misread	☐ Turning Sequence

Work Order ID 145662
Friday, May 06, 2016 10:37:34 AM

145662

Page 8

Item ID: D4464-041 Accept *N900040100* Setup Start *NS1*
Revision ID: Fuel Tank Assembly Stop *NS2*
Start Date: 5/9/2016 Start Qty: 1.00 *1*
Required Date: 5/31/2016 Req'd Qty: 1.00 *1*
Reference: Customer: Cust Item ID:

Approvals: Process Plan: _____ Tooling: _____ Run Start *NR1*
QC: _____ Date: _____ SPC (Y/N): _____ Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
180	QC14- Inspect Spray Paint	0.00							
1RN	Memo	0.01							
QC									
Quality Control									

190 0.00
1QN
Small Fab 1.47
Memo
1- Install placards, fuel sender, tank support, fuel filler splash guard assy, fuel cap as per dwg
2- Abrade surface with red scotch brite and install cushion using contact cement
A/R Contact Cement Batch: M134837

200 0.00
2NN
QC Memo 0.02
Quality Control
QC5- Inspect part completeness to step on W/O
1
DAS 36
9-99
NOV 09 2016

DQA: _____ Date: _____

QA Closed: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐	Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐	QTY Effective : _____ Step #: _____	MRB (QS1042) Approval
Disposition					
Description Work Order Deviation					
Completed By					
Lead hand / Supervisor Approval Verification					
QC / QA Coordinator Approval					

FAULT CATEGORY									
Root Cause		Fault Category							
Environment	No Re-verification	Pressure/Forced	Temperature/Cure	Power Loss/ Surge	Positioned Wrong	Outside Dimensions	Over/Under tolerance	Part Incorrect	Part Lost/Missing
Design	Operator	Bending	Set-up	Folio/Program	Drawing	Misread	Turning Sequence	Off-set	Part Moved
Doc/Data	Offset/Setup	Centre Not Concentric	BOM/Route	Grain	Misaligned/off center	Fit/Function	Finish	Wrong Stock Pulled	Out of Sequence
Equip/Tooling	Supplier	Cracks	Broken/Damage/Defect	Weld	Mislabeled	Fit/Function	Finish	Wrong Stock Pulled	Out of Sequence
Handling/Pre	Training	Crimp/Kink/Ripple/Wave	Inspection Incomplete/Unqualified	Wrong Stock Pulled	Misaligned/off center	Fit/Function	Finish	Wrong Stock Pulled	Out of Sequence
Material	Use for Testing	Cuffs	Contamination	Off-set	Misaligned/off center	Fit/Function	Finish	Wrong Stock Pulled	Out of Sequence
Internal Transport	Poor Information	Crushing	Countersink	Off-set	Misaligned/off center	Fit/Function	Finish	Wrong Stock Pulled	Out of Sequence
Tribal Knowledge	Rushing	Heat Treat	Cut Too Short	Off-set	Misaligned/off center	Fit/Function	Finish	Wrong Stock Pulled	Out of Sequence
LOA	Product Improvement	Wave/Twist in Tube	Instructions Incomplete/Unclear	Off-set	Misaligned/off center	Fit/Function	Finish	Wrong Stock Pulled	Out of Sequence
Substation	Process Improvement	Marks/Chatter	Drill Holes	Off-set	Misaligned/off center	Fit/Function	Finish	Wrong Stock Pulled	Out of Sequence
Past Expiry Date	Manufacturing Process	OTHER :	OTHER :	Off-set	Misaligned/off center	Fit/Function	Finish	Wrong Stock Pulled	Out of Sequence
Misidentified	Past Due	OTHER :	OTHER :	Off-set	Misaligned/off center	Fit/Function	Finish	Wrong Stock Pulled	Out of Sequence

Work Order ID 145662

Friday, May 06, 2016 10:37:34 AM

145662

Item ID: D4464-041

Accept

N900040100

Setup Start

NS1

Revision ID:

Item Name: Fuel Tank Assembly

Stop

NS2

Start Date: 5/9/2016

Start Qty: 1.00

1

Cust Item ID:

Required Date: 5/31/2016

Req'd Qty: 1.00

1

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run

Start

NR1

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

210

Identify as per dwg & Stock Location:

0.00

210

Packaging

Memo

0.01

100 15395

1616

500

Packaging

220

QC21 - Final Inspection - Work Order Release

0.00

220

QC

Memo

0.10

Quality Control

16/11/10

16-11-08

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐ Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐		AGAINST DEPARTMENT/PROCESS Engineering ☐ Quality ☐ Other ☐ MRB (QS1042) Approval ☐																																																																									
Date: _____ Step #: _____		QTY Effective : _____																																																																											
Description Work Order Deviation		Disposition		Completed By																																																																									
Root Cause		FAULT CATEGORY		QC / QA Coordinator Approval																																																																									
<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:15%;">Environment</td> <td style="width:15%;">No Re-verification</td> <td style="width:15%;">Pressure/Forced</td> <td style="width:15%;">Temperature/Cure</td> <td style="width:15%;">Power Loss/Surge</td> <td style="width:15%;">Positioned Wrong</td> </tr> <tr> <td>Design</td> <td>Operator</td> <td>Bending</td> <td>Set-up</td> <td>Folio/Program</td> <td>Outside Dimensions</td> </tr> <tr> <td>Doc/Data</td> <td>Offset/Setup</td> <td>Centre Not Concentric</td> <td>BOM/Route</td> <td>Grain</td> <td>Over/Under tolerance</td> </tr> <tr> <td>Equip/Tooling</td> <td>Supplier</td> <td>Cracks</td> <td>Broken/Damage/Defect</td> <td>Weld</td> <td>Part Incorrect</td> </tr> <tr> <td>Handling/Pre</td> <td>Training</td> <td>Crimp/Kink/Ripple/Wave</td> <td>Inspection Incomplete/Unqualified</td> <td>Wrong Stock Pulled</td> <td>Part Lost/Missing</td> </tr> <tr> <td>Material</td> <td>Use for Testing</td> <td>Cuffs</td> <td>Contamination</td> <td>Out of Sequence</td> <td>Part Moved</td> </tr> <tr> <td>Internal Transport</td> <td>Poor Information</td> <td>Crushing</td> <td>Countersink</td> <td>Off-set</td> <td>Drawing</td> </tr> <tr> <td>Tribal Knowledge</td> <td>Rushing</td> <td>Heat Treat</td> <td>Cut Too Short</td> <td>Mislabeled</td> <td>Finish</td> </tr> <tr> <td>LOA</td> <td>Product Improvement</td> <td>Wave/Twist in Tube</td> <td>Instructions Incomplete/Unclear</td> <td>Fit/Function</td> <td>Misread</td> </tr> <tr> <td>Substation</td> <td>Process Improvement</td> <td>Marks/Chatter</td> <td>Drill Holes</td> <td>Misaligned/off center</td> <td>Turning Sequence</td> </tr> <tr> <td>Past Expiry Date</td> <td>Manufacturing Process</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Misidentified</td> <td>Past Due</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>		Environment	No Re-verification	Pressure/Forced	Temperature/Cure	Power Loss/Surge	Positioned Wrong	Design	Operator	Bending	Set-up	Folio/Program	Outside Dimensions	Doc/Data	Offset/Setup	Centre Not Concentric	BOM/Route	Grain	Over/Under tolerance	Equip/Tooling	Supplier	Cracks	Broken/Damage/Defect	Weld	Part Incorrect	Handling/Pre	Training	Crimp/Kink/Ripple/Wave	Inspection Incomplete/Unqualified	Wrong Stock Pulled	Part Lost/Missing	Material	Use for Testing	Cuffs	Contamination	Out of Sequence	Part Moved	Internal Transport	Poor Information	Crushing	Countersink	Off-set	Drawing	Tribal Knowledge	Rushing	Heat Treat	Cut Too Short	Mislabeled	Finish	LOA	Product Improvement	Wave/Twist in Tube	Instructions Incomplete/Unclear	Fit/Function	Misread	Substation	Process Improvement	Marks/Chatter	Drill Holes	Misaligned/off center	Turning Sequence	Past Expiry Date	Manufacturing Process					Misidentified	Past Due					OTHER : _____			
Environment	No Re-verification	Pressure/Forced	Temperature/Cure	Power Loss/Surge	Positioned Wrong																																																																								
Design	Operator	Bending	Set-up	Folio/Program	Outside Dimensions																																																																								
Doc/Data	Offset/Setup	Centre Not Concentric	BOM/Route	Grain	Over/Under tolerance																																																																								
Equip/Tooling	Supplier	Cracks	Broken/Damage/Defect	Weld	Part Incorrect																																																																								
Handling/Pre	Training	Crimp/Kink/Ripple/Wave	Inspection Incomplete/Unqualified	Wrong Stock Pulled	Part Lost/Missing																																																																								
Material	Use for Testing	Cuffs	Contamination	Out of Sequence	Part Moved																																																																								
Internal Transport	Poor Information	Crushing	Countersink	Off-set	Drawing																																																																								
Tribal Knowledge	Rushing	Heat Treat	Cut Too Short	Mislabeled	Finish																																																																								
LOA	Product Improvement	Wave/Twist in Tube	Instructions Incomplete/Unclear	Fit/Function	Misread																																																																								
Substation	Process Improvement	Marks/Chatter	Drill Holes	Misaligned/off center	Turning Sequence																																																																								
Past Expiry Date	Manufacturing Process																																																																												
Misidentified	Past Due																																																																												

Picklist Print

Friday, May 06, 2016 10:37:33 AM

Work Order ID: 145662

145662

Parent Item: D4464-041

D4464-041

Parent Item Name: Fuel Tank Assembly

Start Date: 5/9/2016

Required Date: 5/31/2016

Start Qty: 1.00

Required Qty: 1.00

Comments:

IPP REV:A 11.11.23 NEW ISSUE DD VERF:EC IPP REV:B
12.03.08 AS PER DWG REV.B DD VERF:EC IPP REV:C 12.04.24
ECN 12-571 DD VERF:EC IPP REV:D 13.10.30 DWG
REV PE1 DD VERF:JLM IPP REV:E 14.06.13 AS PER DWG
REV E DD VERF:JLM IPP REV:F 14.07.21 AS PER DWG REV.F DD
VERF:JLM IPP REV:G 15.01.15 AS PER DWG REV.G DD
VERF:JLM IPP REV:H 15.03.04 AS PER DWG REV.H9 DD
VERF:JLM IPP REV:I 15.06.17 AS PER DWG REV.H DD VERF:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

MS20470AD4-6

Purchased No

Each 2,198,000

8

MS20470AD4-6

**

RIVET

Location

Loc Qty

Loc Code

CCK004

1566

m134360

1566

GA

471

m131618

93

m133077

378

ST310

161

m133077

161

D3997-5

Manufactured No

190

Each

12,0000

2

2 DAS

D3997-5

**

Placard

Location

Loc Qty

Loc Code

ST069

12

137473

6

143814

6

16/08/08 36
9-05

9-89

OCT 19 2016

Date:

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed:

Date:

Work Order update only

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION ☐ Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved		AGAINST DEPARTMENT/PROCESS ☐ Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other		Date : _____ Step #: _____ QTY Effective : _____		MRB (QS1042) Approval _____			
Description Work Order Deviation				Disposition							
Completed By				Lead hand / Supervisor Approval Verification							
								QC / QA Coordinator Approval			

Picklist Print

Friday, May 06, 2016 10:37:33 AM

Work Order ID: 145662

145662

Parent Item: D4464-041

D4464-041

Parent Item Name: Fuel Tank Assembly

Start Date: 5/9/2016

Required Date: 5/31/2016

Start Qty: 1.00

Required Qty: 1.00

D3997-11

Manufactured No

190 Each

9.0000

1 1

D3997-11

**

DAS

OCT 19 2016

Placard

Location

Loc Qty

Loc Code

ST069

127110

9

190 Each

8.0000

1 1

DAS

OCT 19 2016

Manufactured No

No

ST069

127110

9

190 Each

8.0000

1 1

DAS

OCT 19 2016

Manufactured No

No

ST069

127110

9

190 Each

8.0000

1 1

DAS

OCT 19 2016

Manufactured No

No

ST069

127110

9

190 Each

8.0000

1 1

DAS

OCT 19 2016

Manufactured No

No

ST069

127110

9

190 Each

8.0000

1 1

DAS

OCT 19 2016

Manufactured No

No

ST069

127110

9

190 Each

8.0000

1 1

DAS

OCT 19 2016

Manufactured No

No

ST069

127110

9

190 Each

8.0000

1 1

DAS

OCT 19 2016

Manufactured No

No

ST069

127110

9

190 Each

8.0000

1 1

DAS

OCT 19 2016

Manufactured No

No

ST069

127110

9

190 Each

8.0000

1 1

DAS

OCT 19 2016

Manufactured No

No

ST069

127110

9

190 Each

8.0000

1 1

DAS

OCT 19 2016

Manufactured No

No

ST069

127110

9

190 Each

8.0000

1 1

DAS

OCT 19 2016

Manufactured No

No

ST069

127110

9

190 Each

8.0000

1 1

DAS

OCT 19 2016

Manufactured No

No

ST069

127110

9

190 Each

8.0000

1 1

DAS

OCT 19 2016

Manufactured No

No

ST069

127110

9

190 Each

8.0000

1 1

DAS

OCT 19 2016

Manufactured No

No

ST069

127110

9

190 Each

8.0000

1 1

DAS

OCT 19 2016

Manufactured No

No

ST069

127110

9

190 Each

8.0000

1 1

DAS

OCT 19 2016

Manufactured No

No

ST069

127110

9

190 Each

8.0000

1 1

DAS

OCT 19 2016

Manufactured No

No

ST069

127110

9

190 Each

8.0000

1 1

DAS

OCT 19 2016

Manufactured No

No

ST069

127110

9

190 Each

8.0000

1 1

DAS

OCT 19 2016

Manufactured No

No

ST069

127110

9

190 Each

8.0000

1 1

DAS

OCT 19 2016

Manufactured No

No

ST069

127110

9

190 Each

8.0000

1 1

DAS

OCT 19 2016

Manufactured No

No

ST069

127110

9

190 Each

8.0000

1 1

DAS

OCT 19 2016

Manufactured No

No

ST069

127110

9

190 Each

8.0000

1 1

DAS

OCT 19 2016

Manufactured No

No

ST069

127110

9

190 Each

8.0000

1 1

DAS

OCT 19 2016

Manufactured No

No

ST069

127110

9

190 Each

8.0000

1 1

DAS

OCT 19 2016

Manufactured No

No

ST069

127110

9

190 Each

8.0000

1 1

DAS

OCT 19 2016

Manufactured No

No

ST069

127110

9

190 Each

8.0000

1 1

DAS

OCT 19 2016

Manufactured No

No

ST069

127110

9

190 Each

8.0000

1 1

DAS

OCT 19 2016

Manufactured No

No

ST069

127110

9

190 Each

8.0000

1 1

DAS

OCT 19 2016

Manufactured No

No

ST069

127110

9

190 Each

8.0000

1 1

DAS

OCT 19 2016

Manufactured No

No

ST069

127110

9

190 Each

8.0000

1 1

DAS

OCT 19 2016

Manufactured No

No

Date:

Date:

WORK ORDER NON-CONFORMANCE / UPDATE

Work Order update only

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION ☐ Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐ Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other		AGAINST DEPARTMENT/PROCESS																			
Date : _____		Step #: _____		QTY Effective : _____		MRB (QSI042) Approval																	
Description Work Order Deviation				Disposition																			
Completed By				Lead hand / Supervisor Approval Verification																			
								QC / QA Coordinator Approval															
Root Cause				FAULT CATEGORY																			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified				No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due				Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter				Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes				Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Mismatched/off center				Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence			
OTHER : _____																							

Picklist Print

Friday, May 06, 2016 10:37:33 AM

Work Order ID: 145662

Parent Item: D4464-041

Parent Item Name: Fuel Tank Assembly

145662
D4464-041

Start Date: 5/9/2016

Start Qty: 1.00

Required Date: 5/31/2016

Required Qty: 1.00

D3999-7

Manufactured No

120 Each

5.0000

1 1

D3999-7
Corner

Location
WA003

108621
130069

Loc Qty
5
3
2

Loc Code

**B/30069 → 1
DAS 43
9-89

SEP 06 2016

D4000-1

Manufactured No

120 Each

5.0000

1 1

D4000-1
Fuel Supply Fitting

Location
GA

128899

Loc Qty
5
5

Loc Code

**B/30069 → 1
DAS 36
16/07/08 9-89

SEP 06 2016

D4000-5

Manufactured No

120 Each

10.0000

1 1

D4000-5
Fuel Tank Vent Fitting

Location
WA003

107388
130055

Loc Qty
10
6
4

Loc Code

**B/30055 → 1
DAS 36
16/08/09

D4000-9

Manufactured No

120 Each

30.0000

3 3

D4000-9
Grommet

Location
GA

123024
137219

Loc Qty
30
14
16

Loc Code

**B/45953 → 1
DAS 36
16/09/08 9-89

SEP 06 2016

D4000-045

Manufactured No

120 Each

0.0000

1 1

D4000-045
Fuel Pickup Fitting Assembly

**B/45953 → 1
DAS 43
16/09/08 9-89

SEP 06 2016

DQA:

Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed:

Date: _____

Work Order update only



Work Order: _____		AGAINST DEPARTMENT/PROCESS		Engineering	
Part No. _____		Cross tube		Quality	
NCR No. _____		Small Fab		Other	
Date : 12/26/2015		Finishing			
Step #: _____		Composite			
DISPOSITION		QTY Effective : _____		MRB (QS1042) Approval	
Description Work Order Deviation		Suspected Unapproved		Water Jet	
		Rework		Prod. Eng. Coord.	
		Scrap		Rec/Store/Packaging	
		Use-as-is		Supplier	
Disposition					
Completed By					
Lead hand / Supervisor Approval Verification					
QC / QA Coordinator Approval					
Root Cause		FAULT CATEGORY			
Environment	No Re-verification	Temperature/Cure	Power Loss/Surge	Positioned Wrong	
Design	Operator	Set-up	Folio/Program	Outside Dimensions	
Doc/Data	Offset/Setup	BOM/Route	Grain	Over/Under tolerance	
Equip/Tooling	Supplier	Broken/Damage/Defect	Weld	Part Incorrect	
Handling/Pre	Training	Inspection Incomplete/Unqualified	Wrong Stock Pulled	Part Lost/Missing	
Material	Use for Testing	Contamination	Out of Sequence	Part Moved	
Internal Transport	Poor Information	Countersink	Off-set	Drawing	
Tribal Knowledge	Rushing	Cut Too Short	Mislabeled	Finish	
LOA	Product Improvement	Instructions Incomplete/Unclear	Fit/Function	Misread	
Substation	Process Improvement	Drill Holes	Misaligned/off center	Turning Sequence	
Past Expiry Date	Manufacturing Process				
Misidentified	Past Due				
OTHER : _____					

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only



Work Order: _____		AGAINST DEPARTMENT/PROCESS		Engineering	
Part No. _____		Cross tube		Water Jet	
NCR No. _____		Small Fab		Prod. Eng. Coord.	
		Finishing		Rec/Store/Packaging	
		Composite		Supplier	
Date: _____		QTY Effective: _____		MRB (QS1042) Approval	
Step #: _____		Disposition		Completed By	
Description Work Order Deviation				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	

Root Cause				FAULT CATEGORY			
Environment	No Re-verification	Pressure/Forced	Temperature/Cure	Power Loss/Surge	Positioned Wrong		
Design	Operator	Bending	Set-up	Folio/Program	Outside Dimensions		
Doc/Data	Offset/Setup	Centre Not Concentric	BOM/Route	Grain	Over/Under tolerance		
Equip/Tooling	Supplier	Cracks	Broken/Damage/Defect	Weld	Part Incorrect		
Handling/Pre	Training	Crimp/Kink/Ripple/Wave	Inspection Incomplete/Unqualified	Wrong Stock Pulled	Part Lost/Missing		
Material	Use for Testing	Cuffs	Contamination	Out of Sequence	Part Moved		
Internal Transport	Poor Information	Crushing	Countersink	Off-set	Drawing		
Tribal Knowledge	Rushing	Heat Treat	Cut Too Short	Mislabeled	Finish		
LOA	Product Improvement	Wave/Twist in Tube	Instructions Incomplete/Unclear	Fit/Function	Misread		
Substation	Process Improvement	Marks/Chatter	Drill Holes	Misaligned/off center	Turning Sequence		
Past Expiry Date	Manufacturing Process						
Misidentified	Past Due						
OTHER: _____							

Picklist Print

Friday, May 06, 2016 10:37:33 AM

Work Order ID: 145662

Parent Item: D4464-041

Parent Item Name: Fuel Tank Assembly

145662
D4464-041

Start Date: 5/9/2016

Required Date: 5/31/2016

Start Qty: 1.00

Required Qty: 1.00

D4057-1 Manufactured No

120 Each

41.0000

3 3

D4057-1

Retaining Ring

Location

Loc Qty

Loc Code

GA

107269

41

41

D4062-041 Manufactured No

190 Each

3.0000

1 1

D4062-041

Tank Support Assembly

Location

Loc Qty

Loc Code

WA003

134301

3

3

D4125-1 Manufactured No

120 Each

4.0000

1 1

D4125-1

Fwd Sediment Bowl

Location

Loc Qty

Loc Code

WA003

133944

4

4

D4125-3 Manufactured No

120 Each

3.0000

1 1

D4125-3

Aft Sediment Bowl

Location

Loc Qty

Loc Code

WA003

130324

3

3

3
16/09/08
DAS 36 9-89
16/11/08
DAS 36 9-89
3
1
DAS 43 9-89
OCT 27 2015
B133944 → 1
B144763 → 1
OCT 27 2015

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework Scrap Use-as-is Suspected Unapproved Skid-tube Machining Thermoforming Large Fab Cross tube Small Fab Finishing Composite Water Jet Prod. Eng. Coord. Rec/Store/Packaging Supplier Engineering Quality Other		AGAINST DEPARTMENT/PROCESS		MRB (QS1042) Approval	
Date: _____ Step #: _____		QTY Effective : _____					
Description Work Order Deviation				Disposition			
Completed By				Lead hand / Supervisor Approval Verification			
QC / QA Coordinator Approval				QC / QA Coordinator Approval			

Root Cause				FAULT CATEGORY													
Environment	No Re-verification	Operator	Offset/Setup	Supplier	Training	Use for Testing	Poor Information	Rushing	Product Improvement	Process Improvement	Manufacturing Process	Past Due	Pressure/Forced	Temperature/Cure	Power Loss/Surge	Positioned Wrong	
Design													Bending	Set-up	Folio/Program	Outside Dimensions	
Doc/Data													Centre Not Concentric	BOM/Route	Grain	Over/Under tolerance	
Equip/Tooling													Cracks	Broken/Damage/Defect	Weld	Part Incorrect	
Handling/Pre													Crimp/Kink/Ripple/Wave	Inspection Incomplete/Unqualified	Wrong Stock Pulled	Part Lost/Missing	
Material													Cuffs	Contamination	Out of Sequence	Part Moved	
Internal Transport													Crushing	Countersink	Off-set	Drawing	
Tribal Knowledge													Heat Treat	Cut Too Short	Mislabeled	Finish	
LOA													Wave/Twist in Tube	Instructions Incomplete/Unclear	Fit/Function	Misread	
Substation													Marks/Chatter	Drill Holes	Misaligned/off center	Turning Sequence	
Past Expiry Date																	
Misidentified																	
													OTHER :				

Picklist Print

Friday, May 06, 2016 10:37:33 AM

Work Order ID: 145662

Parent Item: D4464-041

Parent Item Name: Fuel Tank Assembly

145662
D4464-041

Start Date: 5/9/2016
Start Qty: 1.00
Required Date: 5/31/2016
Required Qty: 1.00

D4404-5
Manufactured No

120 Each 11.0000 2 2

D4404-5
Cushion, Fwd

**
OCT 19 2016
DAS 6
9-89

Location Loc Qty Loc Code
ST516 11
127570 1
133965 10

D4462-1
Manufactured No

112 Each 1.0000 1 1

D4462-1
Baffle

**
B445952 → 1 SEP 06 2016
DAS 43
9-89

D4462-3
Manufactured No

112 Each 0.0000 1 1

D4462-3
Baffle

**
B146940 → 1 SEP 06 2016
DAS 43
9-89

D4463-041
Manufactured No

120 Each 2.0000 1 1

D4463-041
Tank Top Assembly

**
B146773 → 1 OCT 27 2016
DAS 43
9-89

D4463-3
Manufactured No

120 Each 2.0000 1 1

D4463-3
Tank Air End

**
B103531 → 1 SEP 06 2016
DAS 43
9-89

Location Loc Qty Loc Code
WA003 2
123531 1
130066 1



DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only

Work Order: _____		AGAINST DEPARTMENT/PROCESS	
Part No. _____		Water Jet	
NCR No. _____		Prod. Eng. Coord.	
Date: _____		Rec/Store/Packaging	
Step #: _____		Supplier	
QTY Effective: _____		MR8 (QS1042) Approval	
DISPOSITION		Engineering	
Rework		Quality	
Scrap		Other	
Use-as-is			
Suspected Unapproved			
Description Work Order Deviation		Disposition	
2015 00 132		Completed By	
2015 00 132		Lead hand / Supervisor Approval Verification	
		QC / QA Coordinator Approval	
FAULT CATEGORY			
Root Cause		Positioned Wrong	
Environment		Outside Dimensions	
Design		Over/Under tolerance	
Doc/Data		Part Incorrect	
Equip/Tooling		Part Lost/Missing	
Handling/Pre		Part Moved	
Material		Drawing	
Internal Transport		Finish	
Tribal Knowledge		Misread	
LOA		Turning Sequence	
Substation			
Past Expiry Date			
Misidentified			
No Re-verification		Power Loss/Surge	
Operator		Folio/Program	
Offset/Setup		Grain	
Supplier		Weld	
Training		Wrong Stock Pulled	
Use for Testing		Out of Sequence	
Poor Information		Off-set	
Rushing		Mislabeled	
Product Improvement		Fit/Function	
Process Improvement		Misaligned/off center	
Manufacturing Process			
Past Due			
OTHER: _____			

Picklist Print

Friday, May 06, 2016 10:37:33 AM

Work Order ID: 145662

Parent Item: D4464-041

Parent Item Name: Fuel Tank Assembly

145662
D4464-041

Start Date: 5/9/2016

Required Date: 5/31/2016

Start Qty: 1.00

Required Qty: 1.00

D4463-5

D4463-5

Tank Upper Cut Out

Manufactured No

120 Each

17.0000

1 1

DAS 43 **

B121024 → 1

SEP 06 2016

Location

Loc Qty

Loc Code

W/A003

106751
121024

17
12
5

120 Each

0.0000

1 1

B146071 → 1

DAS 43 SEP 06 2016

D4463-7

D4463-7

Tank Fwd End

Manufactured No

120 Each

D4463-9

D4463-9

Tank Back

Manufactured No

112 Each

1.0000

1 1

B46080 → 1

SEP 06 2016

Location

Loc Qty

Loc Code

W/A003

127752

1

112 Each

2.0000

1 1

DAS 43 **

B128253 → 1

SEP 06 2016

D4463-11

D4463-11

Tank Front

Manufactured No

Location

Loc Qty

Loc Code

W/A003

128253

2

190 Each

0.0000

1 1

DAS 43 **

B146951 → 1

SEP 06 2016

D4463-13

D4463-13

Tank Bottom

Manufactured No

DQA:

Date:

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed:

Date:

Work Order update only



Work Order: _____		AGAINST DEPARTMENT/PROCESS		Engineering	
Part No. _____		Cross tube		Quality	
NCR No. _____		Small Fab		Other	
Date: _____		Thermoforming		Water Jet	
Step #: _____		Large Fab		Prod. Eng. Coord.	
Description Work Order Deviation		Suspected Unapproved		Rec/Store/Packaging	
Disposition		QTY Effective: _____		Supplier	
Completed By		MRB (QS1042) Approval			
Lead hand / Supervisor Approval Verification					
QC / QA Coordinator Approval					

Root Cause				FAULT CATEGORY			
Environment	No Re-verification	Pressure/Forced	Temperature/Cure	Power Loss/Surge	Positioned Wrong		
Design	Operator	Bending	Set-up	Folio/Program	Outside Dimensions		
Doc/Data	Offset/Setup	Centre Not Concentric	BOM/Route	Grain	Over/Under tolerance		
Equip/Tooling	Supplier	Cracks	Broken/Damage/Defect	Weld	Part Incorrect		
Handling/Pre	Training	Crimp/Kink/Ripple/Wave	Inspection Incomplete/Unqualified	Wrong Stock Pulled	Part Lost/Missing		
Material	Use for Testing	Cuffs	Contamination	Out of Sequence	Part Moved		
Internal Transport	Poor Information	Crushing	Countersink	Off-set	Drawing		
Tribal Knowledge	Rushing	Heat Treat	Cut Too Short	Mislabeled	Finish		
LOA	Product Improvement	Wave/Twist in Tube	Instructions Incomplete/Unclear	Fit/Function	Misread		
Substation	Process Improvement	Marks/Chatter	Drill Holes	Misaligned/off center	Turning Sequence		
Past Expiry Date	Manufacturing Process						
Misidentified	Past Due						
OTHER: _____							

Picklist Print

Friday, May 06, 2016 10:37:33 AM

Work Order ID: 145662

Parent Item: D4464-041

Parent Item Name: Fuel Tank Assembly

145662
D4464-041

Start Date: 5/9/2016

Start Qty: 1.00

Required Date: 5/31/2016
Required Qty: 1.00

D4577-041 Manufactured No

190 Each

4.0000

1 1

D4577-041
Fwd Access Panel Assembly

**

16/02/18 36 9.89

Location
ST247

Loc Qty
4

Loc Code

106703
137128

2 2

190 Each

3.0000

1 1

D4577-1
D4577-1
Rear Access Panel

Manufactured No

**

16/02/17 36 9.89

Location
ST247

Loc Qty
2

Loc Code

137326

2 2

WA002

1 1

190 Each

4.0000

1 1

D4577-3
D4577-3
Middle Access Panel

Manufactured No

**

16/02/17 36 9.89

Location
ST247

Loc Qty
3

Loc Code

106697
137126

1 2

WA003

1 1

128100

Manufactured No

190 Each

7.0000

1 1

D4968-1
D4968-1
Side Cushion

Manufactured No

**

OCT 19 2016 36 9.89

Location
ST400

Loc Qty
7

Loc Code

143723

7 7

DQA:

Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed:

Date: _____

Work Order update only ☐

Work Order: _____		DISPOSITION		AGAINST DEPARTMENT/PROCESS				Engineering ☐	
Part No. _____		Rework ☐		Skid-tube ☐		Cross tube ☐		Water Jet ☐	
NCR No. _____		Use-as-is ☐		Machining ☐		Small Fab ☐		Prod. Eng. Coord. ☐	
Date: _____		Suspected Unapproved ☐		Thermoforming ☐		Finishing ☐		Rec/Store/Packaging ☐	
Step #: _____		QTY Effective: _____		Large Fab ☐		Composite ☐		Supplier ☐	
Description Work Order Deviation		Disposition		MRB (QS1042) Approval					
Completed By		Lead hand / Supervisor Approval Verification		QC / QA Coordinator Approval					
Root Cause Environment ☐ No Re-verification ☐ Design ☐ Operator ☐ Doc/Data ☐ Offset/Setup ☐ Equip/Tooling ☐ Supplier ☐ Handling/Pre ☐ Training ☐ Material ☐ Use for Testing ☐ Internal Transport ☐ Poor Information ☐ Tribal Knowledge ☐ Rushing ☐ LOA ☐ Product Improvement ☐ Substation ☐ Process Improvement ☐ Past Expiry Date ☐ Manufacturing Process ☐ Misidentified ☐ Past Due ☐		FAULT CATEGORY Temperature/Cure ☐ Power Loss/Surge ☐ Set-up ☐ Folio/Program ☐ BOM/Route ☐ Grain ☐ Broken/Damage/Defect ☐ Weld ☐ Inspection Incomplete/Unqualified ☐ Wrong Stock Pulled ☐ Contamination ☐ Out of Sequence ☐ Countersink ☐ Off-set ☐ Cut Too Short ☐ Mislabeled ☐ Instructions Incomplete/Unclear ☐ Fit/Function ☐ Drill Holes ☐ Misaligned/off center ☐		Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐					
OTHER: ☐									

Picklist Print

Friday, May 06, 2016 10:37:34 AM

Work Order ID: 145662

Parent Item: D4464-041

Parent Item Name: Fuel Tank Assembly

145662
D4464-041

Start Date: 5/9/2016

Required Date: 5/31/2016

Start Qty: 1.00

Required Qty: 1.00

D4975-1 Manufactured No

Each 2.0000

1

D4975-1

~~OCT 19 2016~~

DAS 36

Bracket

Location

Loc Qty

Loc Code

GA

131674
135338

2

1

1

Each

318.0000

24

1455/8
(10)

DAS

Purchased

No

Each

AN3-5A
AN3-5A

135058

DAS 6

OCT 19 2016

9-89

Bolt

Location

Loc Qty

Loc Code

FP001

m133686
m134055

26

2

24

ST350

m134502

292

292

Each

27.0000

5

OCT 19 2016

9-89

AN3H5A

AN3H5A

5

OCT 19 2016

9-89

Bolt

Location

Loc Qty

Loc Code

ST349

m132680

25

25

2

27.0000

5

OCT 19 2016

9-89

ST350

m127044

2

2

Each

27.0000

5

OCT 19 2016

9-89

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐		Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐	
Date: _____		Step #: _____		QTY Effective: _____		MRB (QS1042) Approval	
Description Work Order Deviation				Disposition			
Completed By				Lead hand / Supervisor Approval Verification			
				QC / QA Coordinator Approval			

Root Cause		FAULT CATEGORY									
Environment	No Re-verification	Pressure/Forced	Temperature/Cure	Power Loss/Surge	Positioned Wrong						
Design	Operator	Bending	Set-up	Folio/Program	Outside Dimensions.						
Doc/Data	Offset/Setup	Centre Not Concentric	BOM/Route	Grain	Over/Under tolerance						
Equip/Tooling	Supplier	Cracks	Broken/Damage/Defect	Weld	Part Incorrect						
Handling/Pre	Training	Crimp/Kink/Ripple/Wave	Inspection Incomplete/Unqualified	Wrong Stock Pulled	Part Lost/Missing						
Material	Use for Testing	Cuffs	Contamination	Out of Sequence	Part Moved						
Internal Transport	Poor Information	Crushing	Countersink	Off-set	Drawing						
Tribal Knowledge	Rushing	Heat Treat	Cut Too Short	Mislabeled	Finish						
LOA	Product Improvement	Wave/Twist in Tube	Instructions Incomplete/Unclear	Fit/Function	Misread						
Substation	Process Improvement	Marks/Chatter	Drill Holes	Misaligned/off center	Turning Sequence						
Past Expiry Date	Manufacturing Process										
Misidentified	Past Due										
		OTHER: _____									

Picklist Print

Friday, May 06, 2016 10:37:34 AM

Work Order ID: 145662

Parent Item: D4464-041

Parent Item Name: Fuel Tank Assembly

145662
D4464-041

Start Date: 5/9/2016

Start Qty: 1.00

Required Date: 5/31/2016
Required Qty: 1.00

AN3-7A

Purchased

No

Each

302.0000

4

AN3-7A

Bolt

Location

Loc Qty

Loc Code

over003

250

ST3349

250

m134606

46

m133694

46

ST349

6

m132803

6

MS20426AD4-4

Purchased

No

Each

4,715.000

4

MS20426AD4-4

Rivet

Location

Loc Qty

Loc Code

GA

2038

125445

2038

ST312

2677

m132536

2677

MS20470AD4-4

Purchased

No

Each

2,914.000

165

MS20470AD4-4

Rivet, Universal Head

Location

Loc Qty

Loc Code

GA

2446

M133922

54

M134294

323

M134574

2069

ST310

468

M132803

468

135056

DAS

OCT 19 2016

9-89

16/10/17

DAS
36
9-89

16/10/17

DAS
36
9-89

M135536

165

DQA:

Date: _____

QA Closed:

Date: _____

WORK ORDER NON-CONFORMANCE / UPDATEWork Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION ☐ Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐ Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier		AGAINST DEPARTMENT/PROCESS		Engineering ☐ Quality ☐ Other ☐																																																																																																																																																																																			
Date: _____ Step #: _____		QTY Effective : _____		MRB (QS1042) Approval																																																																																																																																																																																					
Description Work Order Deviation				Disposition																																																																																																																																																																																					
				Completed By																																																																																																																																																																																					
				Lead hand / Supervisor Approval Verification																																																																																																																																																																																					
				QC / QA Coordinator Approval																																																																																																																																																																																					
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th colspan="4" style="text-align: left;">Root Cause</th> <th colspan="8" style="text-align: left;">FAULT CATEGORY</th> </tr> </thead> <tbody> <tr> <td style="width:10%;">Environment</td> <td style="width:10%;">No Re-verification</td> <td style="width:10%;">Pressure/Forced</td> <td style="width:10%;">Temperature/Cure</td> <td style="width:10%;">Power Loss/Surge</td> <td style="width:10%;">Positioned Wrong</td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> </tr> <tr> <td>Design</td> <td>Operator</td> <td>Bending</td> <td>Set-up</td> <td>Folio/Program</td> <td>Outside Dimensions</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Doc/Data</td> <td>Offset/Setup</td> <td>Centre Not Concentric</td> <td>BOM/Route</td> <td>Grain</td> <td>Over/Under tolerance</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Equip/Tooling</td> <td>Supplier</td> <td>Cracks</td> <td>Broken/Damage/Defect</td> <td>Weld</td> <td>Part Incorrect</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Handling/Pre</td> <td>Training</td> <td>Crimp/Kink/Ripple/Wave</td> <td>Inspection Incomplete/Unqualified</td> <td>Wrong Stock Pulled</td> <td>Part Lost/Missing</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Material</td> <td>Use for Testing</td> <td>Cuffs</td> <td>Contamination</td> <td>Out of Sequence</td> <td>Part Moved</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Internal Transport</td> <td>Poor Information</td> <td>Crushing</td> <td>Countersink</td> <td>Off-set</td> <td>Drawing</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Tribal Knowledge</td> <td>Rushing</td> <td>Heat Treat</td> <td>Cut Too Short</td> <td>Mislabeled</td> <td>Finish</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>LOA</td> <td>Product Improvement</td> <td>Wave/Twist in Tube</td> <td>Instructions Incomplete/Unclear</td> <td>Fit/Function</td> <td>Misread</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Substation</td> <td>Process Improvement</td> <td>Marks/Chatter</td> <td>Drill Holes</td> <td>Misaligned/off center</td> <td>Turning Sequence</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Past Expiry Date</td> <td>Manufacturing Process</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Misidentified</td> <td>Past Due</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td colspan="4"></td> <td colspan="8" style="text-align: center;"> OTHER : _____ </td> </tr> </tbody> </table>						Root Cause				FAULT CATEGORY								Environment	No Re-verification	Pressure/Forced	Temperature/Cure	Power Loss/Surge	Positioned Wrong								Design	Operator	Bending	Set-up	Folio/Program	Outside Dimensions								Doc/Data	Offset/Setup	Centre Not Concentric	BOM/Route	Grain	Over/Under tolerance								Equip/Tooling	Supplier	Cracks	Broken/Damage/Defect	Weld	Part Incorrect								Handling/Pre	Training	Crimp/Kink/Ripple/Wave	Inspection Incomplete/Unqualified	Wrong Stock Pulled	Part Lost/Missing								Material	Use for Testing	Cuffs	Contamination	Out of Sequence	Part Moved								Internal Transport	Poor Information	Crushing	Countersink	Off-set	Drawing								Tribal Knowledge	Rushing	Heat Treat	Cut Too Short	Mislabeled	Finish								LOA	Product Improvement	Wave/Twist in Tube	Instructions Incomplete/Unclear	Fit/Function	Misread								Substation	Process Improvement	Marks/Chatter	Drill Holes	Misaligned/off center	Turning Sequence								Past Expiry Date	Manufacturing Process												Misidentified	Past Due																OTHER : _____							
Root Cause				FAULT CATEGORY																																																																																																																																																																																					
Environment	No Re-verification	Pressure/Forced	Temperature/Cure	Power Loss/Surge	Positioned Wrong																																																																																																																																																																																				
Design	Operator	Bending	Set-up	Folio/Program	Outside Dimensions																																																																																																																																																																																				
Doc/Data	Offset/Setup	Centre Not Concentric	BOM/Route	Grain	Over/Under tolerance																																																																																																																																																																																				
Equip/Tooling	Supplier	Cracks	Broken/Damage/Defect	Weld	Part Incorrect																																																																																																																																																																																				
Handling/Pre	Training	Crimp/Kink/Ripple/Wave	Inspection Incomplete/Unqualified	Wrong Stock Pulled	Part Lost/Missing																																																																																																																																																																																				
Material	Use for Testing	Cuffs	Contamination	Out of Sequence	Part Moved																																																																																																																																																																																				
Internal Transport	Poor Information	Crushing	Countersink	Off-set	Drawing																																																																																																																																																																																				
Tribal Knowledge	Rushing	Heat Treat	Cut Too Short	Mislabeled	Finish																																																																																																																																																																																				
LOA	Product Improvement	Wave/Twist in Tube	Instructions Incomplete/Unclear	Fit/Function	Misread																																																																																																																																																																																				
Substation	Process Improvement	Marks/Chatter	Drill Holes	Misaligned/off center	Turning Sequence																																																																																																																																																																																				
Past Expiry Date	Manufacturing Process																																																																																																																																																																																								
Misidentified	Past Due																																																																																																																																																																																								
				OTHER : _____																																																																																																																																																																																					

Picklist Print

Friday, May 06, 2016 10:37:34 AM

Work Order ID: 145662

Parent Item: D4464-041

Parent Item Name: Fuel Tank Assembly

145662
D4464-041

Start Date: 5/9/2016 Required Date: 5/31/2016
Start Qty: 1.00 Required Qty: 1.00

MS2104213

Purchased

No

190 Each

1,726,000 4 4

MS2104213
Nut

**

135601

OCT 19 2016

DAS 6 9-89

Location

Loc Qty

Loc Code

FP001

m133790

100

100

GA

m133790

701

m134360

3

ST303

m134039

925

m134360

12

m134634

313

600

826,0000

13

13

DAS 6

No

Each

826,0000

13

13

DAS 6

No

Each

826,0000

13

13

DAS 6

No

Each

826,0000

13

13

DAS 6

No

Each

826,0000

13

13

DAS 6

No

Each

826,0000

13

13

DAS 6

No

Each

826,0000

13

13

DAS 6

No

Each

826,0000

13

13

DAS 6

No

Each

826,0000

13

13

DAS 6

No

Each

826,0000

13

13

DAS 6

No

Each

826,0000

13

13

DAS 6

No

Each

826,0000

13

13

DAS 6

No

Each

826,0000

13

13

DAS 6

No

Each

826,0000

13

13

DAS 6

No

Each

826,0000

13

13

DAS 6

No

Each

826,0000

13

13

DAS 6

No

Each

826,0000

13

13

DAS 6

No

Each

826,0000

13

13

DAS 6

No

Each

826,0000

13

13

DAS 6

No

Each

826,0000

13

13

DAS 6

No

Each

826,0000

13

13

DAS 6

No

Each

826,0000

13

13

DAS 6

No

Each

826,0000

13

13

DAS 6

No

Each

826,0000

13

13

DAS 6

No

Each

826,0000

13

13

DAS 6

No

Each

826,0000

13

13

DAS 6

No

Each

826,0000

13

13

DAS 6

No

Each

826,0000

13

13

DAS 6

No

Each

826,0000

13

13

DAS 6

No

Each

826,0000

13

13

DAS 6

No

Each

826,0000

13

13

DAS 6

No

Each

826,0000

13

13

DAS 6

No

Each

826,0000

13

13

DAS 6

No

Each

826,0000

13

13

DAS 6

No

Each

826,0000

13

13

DAS 6

No

Each

826,0000

13

13

DAS 6

No

Each

826,0000

13

13

DAS 6

No

Each

826,0000

13

13

DAS 6

No

Each

826,0000

13

13

DAS 6

No

Each

826,0000

13

13

DAS 6

No

Each

826,0000

13

13

DAS 6

No

Each

826,0000

13

13

DAS 6

No

Each

826,0000

13

13

DAS 6

No

Each

826,0000

13

13

DAS 6

No

Each

826,0000

13

13

DAS 6

No

Each

826,0000

13

13

DAS 6

No

Each

826,0000

13

13

DAS 6

No

Each

826,0000

13

13

DAS 6

No

Each

826,0000

13

13

DAS 6

No

Each

826,0000

13

13

DAS 6

No

Each

826,0000

13

13

DAS 6

No



DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION		AGAINST DEPARTMENT/PROCESS																	
Date: _____		Step #: _____		QTY Effective: _____		MRB (QS1042) Approval															
Description Work Order Deviation		Disposition																			
Completed By		Lead hand / Supervisor Approval Verification										QC / QA Coordinator Approval									
Root Cause		FAULT CATEGORY										Positioned Wrong Outside Dimensions Over/Under tolerance Part Incorrect Part Lost/Missing Part Moved Drawing Finish Misread Turning Sequence									
Environment		No Re-verification		Pressure/Forced		Temperature/Cure		Power Loss/Surge		Positioned Wrong											
Design		Operator		Bending		Set-up		Folio/Program		Outside Dimensions											
Doc/Data		Offset/Setup		Centre Not Concentric		BOM/Route		Grain		Over/Under tolerance											
Equip/Tooling		Supplier		Cracks		Broken/Damage/Defect		Weld		Part Incorrect											
Handling/Pre		Training		Crimp/Kink/Ripple/Wave		Inspection Incomplete/Unqualified		Wrong Stock Pulled		Part Lost/Missing											
Material		Use for Testing		Cuffs		Contamination		Out of Sequence		Part Moved											
Internal Transport		Poor Information		Crushing		Countersink		Off-set		Drawing											
Tribal Knowledge		Rushing		Heat Treat		Cut Too Short		Misabeled		Finish											
LOA		Product Improvement		Wave/Twist in Tube		Instructions Incomplete/Unclear		Fit/Function		Misread											
Substation		Process Improvement		Marks/Chatter		Drill Holes		Misaligned/off center		Turning Sequence											
Past Expiry Date		Manufacturing Process																			
Misidentified		Past Due																			
				OTHER :																	

Picklist Print

Friday, May 06, 2016 10:37:34 AM

Page 12

Work Order ID: 145662

145662

Parent Item: D4464-041

D4464-041

Parent Item Name: Fuel Tank Assembly

Start Date: 5/9/2016

Required Date: 5/31/2016

Start Qty: 1.00

Required Qty: 1.00

NAS1149D03631

Purchased

No

190

Each

2,248,000

24

24

NAS1149D03631
Washer

**

135864

OCT 19 2016

Location

Loc Qty

Loc Code

GA

518

m134055

518

ST260a

1000

m134676

1000

ST263

730

m134606

730

DAS
36
9.88

NAS 1149 D036 3

1K H 134502

16/10/19

DAS
36
9.88

ITEM	QTY	PART NUMBER	DESCRIPTION
1	2	D3997-5	PLACARD (AUX FUEL DRAIN)
2	1	D3997-11	PLACARD (LOADING)
3	1	D3997-17	PLACARD (STOWAGE)
4	1	D3997-28	PLACARD (WARNING)
5	1	D3997-43	PLACARD (EARTH)
6	1	D3998-7	CORNER
7	1	D4000-1	FITTING
8	1	D4000-5	FUEL TANK VENT FITTING
9	3	D4000-8	GROMMET
10	1	D4000-145	FUEL PICK UP AND STRAINER ASSEMBLY
11	1	D4008-11	TANK HINGE HALF
12	1	D4008-041	FUEL FILLER SPLASH GUARD ASSEMBLY
13	1	D4023-3	FUEL CAP AND FLANGE
14	1	D4023-5	FUEL SENDER
15	3	D4067-1	RETAINER
16	1	D4082-041	TANK SUPPORT
17	1	D4126-1	FWD SEDIMENT BOWL
18	1	D4126-3	AFT SEDIMENT BOWL
19	2	D4404-5	CUSHION, FWD
20	1	D4482-1	BAFFLE
21	1	D4482-3	BAFFLE
22	1	D4483-041	TOP TANK ASSEMBLY
23	1	D4483-3	TANK AFT END
24	1	D4483-5	TANK UPPER CUT OUT
25	1	D4483-7	TANK FORWARD END
26	1	D4483-8	TANK BACK
27	1	D4483-11	TANK FRONT
28	1	D4483-13	TANK BOTTOM
29	1	D4677-041	FWD ACCESS PANEL ASSEMBLY
30	1	D4677-1	REAR ACCESS PANEL
31	1	D4677-3	MIDDLE ACCESS PANEL
32	1	D4688-1	CUSHION, SIDE
33	1	D4675-1	ANGLE BRACKET
34	24	ANG-5A	BOLT
35	5	ANG-5A	BOLT
36	4	ANG-7A	BOLT
37	4	MS20428AD-4	RIVET, CRK
38	186	MS20470AD-4	RIVET, PANHEAD
39	8	MS20470AD-6	RIVET, PANHEAD
40	4	MS21042L3	NUT
41	13	NAS1149D03321	WASHER
42	24	NAS1149D03631	WASHER

APPROVED

REV.	ML	DESCRIPTION	DATE
DESIGN	ML	DESIGN	DATE
DRAWN	CC	DART AEROSPACE LTD	DATE
CHECKED	AP	HAWKSBURY, ONTARIO, CANADA	DATE
MFG. APPR.	DD	D4404	DATE
APPROVED	HS	TANK ASSEMBLY	DATE
DATE	15.02.06		

RELEASED
R 2015-08-18
ECON 15-585

Date:

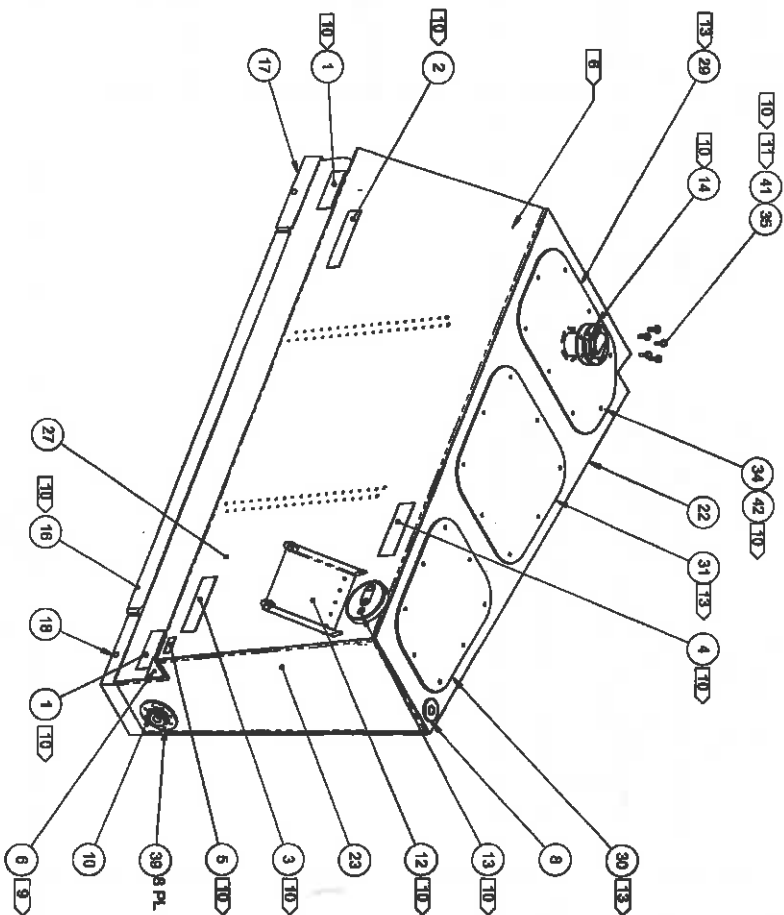
WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed:

Date:

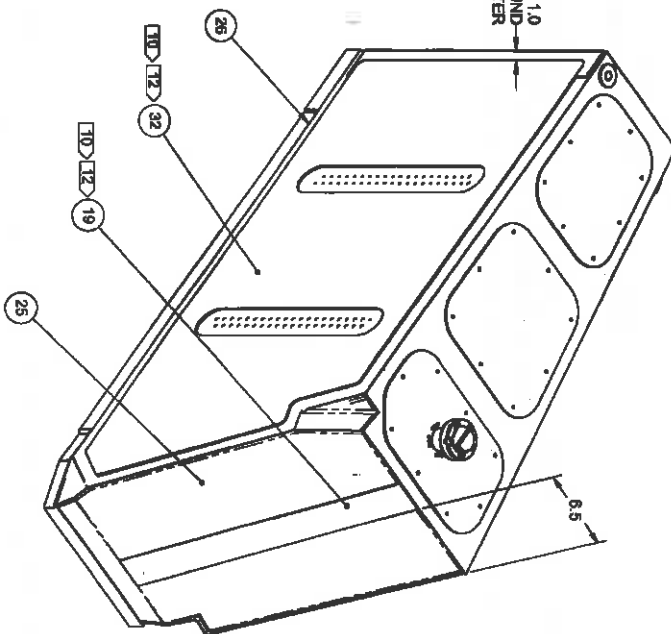
Work Order update only

[illegible]



D4404-041 FUEL TANK ASSEMBLY

- NOTES:**
- 1) MATERIAL: N/A
 - 2) FINISH: PRIME TEMPO GREY (4.2.1.3.2) PER DART OSI 005 4.2.1
PAINT FLAT GREY (4.2.2.3) PER DART OSI 005 4.2.2
 - 3) TOLERANCES: PER DART OSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK SHARP EDGES: N/A
 - 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D360-794-141" USING D2729-1 RED DECAL
 - 7) WEIGHT: 38.92 lbs
 - 8) LIFT AND PRESSURE TEST PER DART OSI 038 6.3
 - 9) MASK PRIOR TO FINISH
 - 10) INSTALL AFTER FINISH
 - 11) LOCKWIRE BOLTS AFTER INSTALLATION PER AC 43.13 OR MS33940
 - 12) INSTALL CUSHION USING CONTACT CEMENT TRIM TO FIT IF REQUIRED
 - 13) INSTALL D467-041/1-3 ACCESS PANELS WET WITH PROSEAL PIS 880B.



APPROVED

DESIGN	ML	DART AEROSPACE LTD
DRAWN	CC	HAWKESBURY, ONTARIO, CANADA
CHECKED	AP	DRAWING NO.
MFG. APPR.	DD	D4404
APPROVED	HS	TITLE
DATE	15.02.06	SCALE
		NTS

LEASED
11 205-06-18

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

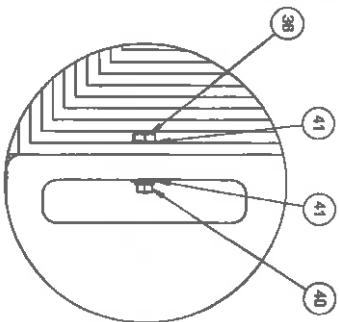
QA Closed: _____ Date: _____

Work Order update only

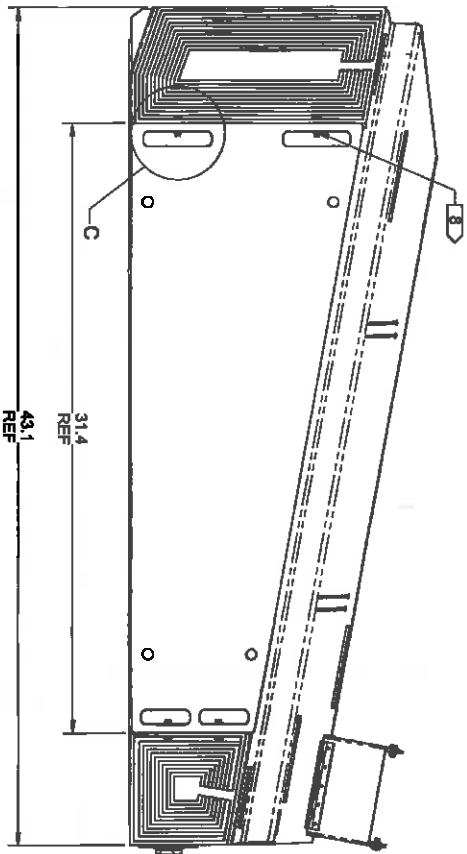


Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION ☐ Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐ Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier		AGAINST DEPARTMENT/PROCESS ☐ Engineering ☐ Quality ☐ Other ☐ Engineering ☐ Quality ☐ Other		Date : _____ Step #: _____ QTY Effective : _____		MRB (QS1042) Approval	
Description Work Order Deviation				Disposition					
Completed By				Lead hand / Supervisor Approval Verification					
QC / QA Coordinator Approval				MRB (QS1042) Approval					

Root Cause												FAULT CATEGORY																																																			
Environment	Design	Doc/Data	Equip/Tooling	Handling/Pre	Material	Internal Transport	Tribal Knowledge	LOA	Substation	Past Expiry Date	Misidentified	No Re-verification	Operator	Offset/Setup	Supplier	Training	Use for Testing	Poor Information	Rushing	Product Improvement	Process Improvement	Manufacturing Process	Past Due	Pressure/Forced	Bending	Centre Not Concentric	Cracks	Crimp/Kink/Ripple/Wave	Cuffs	Crushing	Heat Treat	Wave/Twist in Tube	Marks/Chatter	Temperature/Cure	Set-up	BOM/Route	Broken/Damage/Defect	Inspection Incomplete/Unqualified	Contamination	Countersink	Cut Too Short	Instructions Incomplete/Unclear	Drill Holes	Power Loss/Surge	Folio/Program	Grain	Weld	Wrong Stock Pulled	Out of Sequence	Off-set	Mislabeled	Fit/Function	Misaligned/off center	Positioned Wrong	Outside Dimensions	Over/Under tolerance	Part Incorrect	Part Lost/Missing	Part Moved	Drawing	Finish	Misread	Turning Sequence
OTHER : _____																																																															



DETAIL C
SCALE 3X



D4464-041 FUEL TANK ASSEMBLY
AUXILIARY VIEW

APPROVED

DESIGN	M.L.	DART AEROSPACE LTD
DRAWN	CC	HAWKESBURY, ONTARIO, CANADA
CHECKED	AP	DRAWING NO.
MFG. APPR.	DD	D4464
APPROVED	HS	TITLE
DATE	15.02.06	TANK ASSEMBLY
DE APPR.	DS	SCALE
		NIS

COPYRIGHT © 2006 BY DART AEROSPACE LTD.
ALL RIGHTS RESERVED. NO PART OF THIS DRAWING IS TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS WITHOUT THE WRITTEN PERMISSION OF DART AEROSPACE LTD.

RELEASED
R 2015-08-18
D

- NOTES:
- 1) MATERIAL: N/A
 - 2) FINISH: N/A
 - 3) TOLERANCES: PER DART QSL 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK SHARP EDGES: N/A
 - 6) IDENTIFICATION: N/A
 - 7) WEIGHT: N/A
 - 8) TRANSFER DRILL HOLES FROM D4125-1/3 SEDIMENT BOWLS TO D4062-041 TANK SUPPORT ASSEMBLY

DQA: _____ Date: _____

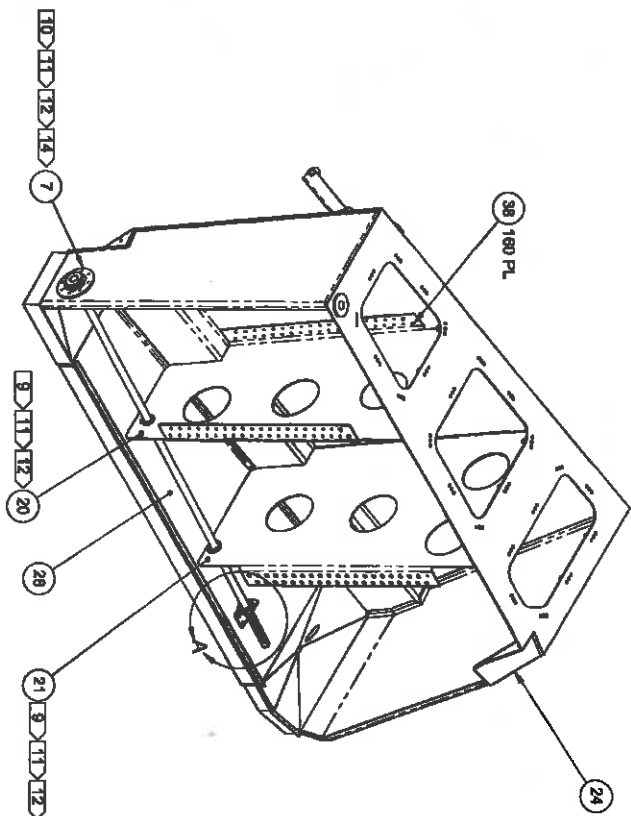
QA Closed: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

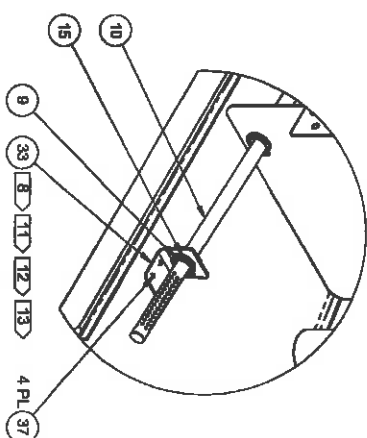
Work Order update only



Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Cross tube ☐ Water Jet ☐ Machining ☐ Small Fab ☐ Prod. Eng. Coord. ☐ Thermoforming ☐ Finishing ☐ Rec/Store/Packaging ☐ Large Fab ☐ Composite ☐ Supplier ☐				Engineering ☐ Quality ☐ Other ☐		MRB (QS1042) Approval									
Date: _____		Step #: _____		QTY Effective: _____															
Description Work Order Deviation										Disposition									
										Completed By									
										Lead hand / Supervisor Approval Verification									
										QC / QA Coordinator Approval									
FAULT CATEGORY																			
Root Cause Environment ☐ No Re-verification ☐ Design ☐ Operator ☐ Doc/Data ☐ Offset/Setup ☐ Equip/Tooling ☐ Supplier ☐ Handling/Pre ☐ Training ☐ Material ☐ Use for Testing ☐ Internal Transport ☐ Poor Information ☐ Tribal Knowledge ☐ Rushing ☐ LOA ☐ Product Improvement ☐ Substation ☐ Process Improvement ☐ Past Expiry Date ☐ Manufacturing Process ☐ Misidentified ☐				Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐				Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐				Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐				Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER: _____																			



D4464-041 FUEL TANK ASSEMBLY
D4463-8 TANK BACK REMOVED
TO SHOW INTERIOR DETAIL



DETAIL A
ROTATED FOR CLARITY
SCALE 2X

- NOTES:**
- 1) MATERIAL: N/A
 - 2) FINISH: N/A
 - 3) TOLERANCES: PER PART CSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK SHARP EDGES: N/A
 - 6) IDENTIFICATION: N/A
 - 7) WEIGHT: N/A
 - 8) COAT FAYING SURFACES OF D4475-1 ANGLE BRACKET AND D4463-13 TANK BOTTOM WITH PROSEAL P/S 8908
 - 9) AND WET INSTALL MS20426AD4-4 RIVETS
 - 10) COAT FAYING SURFACES OF D4462-1/3 BAFFLES AND D4463-8-11 TANK FRONT/BACK WITH PROSEAL P/S 8908
 - 11) AND WET INSTALL MS20470AD4-8 RIVETS
 - 12) AND WET INSTALL MS20470AD4-8 RIVETS
 - 13) FILET SEAL THE INTERIOR OF THE TANK AROUND THE EDGE OF D4475-1 ANGLE BRACKET, D4462-1/3 BAFFLES AND D4400-1 FUEL SUPPLY FITTING WITH PROSEAL P/S 8908
 - 14) DONE SEAL ALL BUCKED ENDS OF RIVETS WITH PROSEAL P/S 8908
 - 15) TRANSFER DRILL .00128 HOLES FROM D4475-1 ANGLE BRACKET INTO D4463-13 TANK BOTTOM AND COUNTERSINK HOLES Ø .0225 X .100" FROM THE OUTSIDE OF THE TANK
 - 16) INSTALL D4400-1 FITTING WITH FLAT FACING UPWARDS
 - 17) BRUSH PROSEAL 8904 ON ALL INTERNAL SHEET METAL FOLDS

APPROVED

DESIGN	ML	DART AEROSPACE LTD
DRAWN	CC	HAYNES/SLURY, ONTARIO, CANADA
CHECKED	AP	DRAWING NO.
INFG. APPR.	DD	D4464
APPROVED	HS	TITLE
DATE	15.02.06	TANK ASSEMBLY
		SCALE
		NIS

RELEASED
2015-06-16

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐ Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐		AGAINST DEPARTMENT/PROCESS		MRB (QS1042) Approval	
Date: _____ Step #: _____		QTY Effective : _____					
Description Work Order Deviation				Disposition			
Completed By				Lead hand / Supervisor Approval Verification			
QC / QA Coordinator Approval							

Root Cause		FAULT CATEGORY									
Environment	No Re-verification	Pressure/Forced	Temperature/Cure	Power Loss/Surge	Positioned Wrong						
Design	Operator	Bending	Set-up	Folio/Program	Outside Dimensions						
Doc/Data	Offset/Setup	Centre Not Concentric	BOM/Route	Grain	Over/Under tolerance						
Equip/Tooling	Supplier	Cracks	Broken/Damage/Defect	Weld	Part Incorrect						
Handling/Pre	Training	Crimp/Kink/Ripple/Wave	Inspection Incomplete/Unqualified	Wrong Stock Pulled	Part Lost/Missing						
Material	Use for Testing	Cuffs	Contamination	Out of Sequence	Part Moved						
Internal Transport	Poor Information	Crushing	Countersink	Off-set	Drawing						
Tribal Knowledge	Rushing	Heat Treat	Cut Too Short	Mislabeled	Finish						
LOA	Product Improvement	Wave/Twist in Tube	Instructions Incomplete/Unclear	Fit/Function	Misread						
Substation	Process Improvement	Marks/Chatter	Drill Holes	Misaligned/off center	Turning Sequence						
Past Expiry Date	Manufacturing Process										
Misidentified	Past Due										
		OTHER : _____									



- 3) UNITS HINGED, UNLESS OTHERWISE NOTED
- 4) UNITS BURNED, UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: N/A
- 8) TRIM FLANGES AS REQUIRED TO FIT ASSEMBLY
- 9) CENTER HINGE BELOW FUEL CAP FLANGE
- 10) POSITION FUEL CAP FLANGE AS SHOWN, ELONGATED HOLE APPROXIMATELY HORIZONTAL
- 11) POSITION FUEL CAP FLANGE SO THAT INNER FACE IS FLUSH WITH INSIDE OF TANK
- 12) WELD PER DART OSI 004
- 13) COAT FAYING SURFACES OF D4008-11 TANK HINGE HALF AND D4463-11 TANK FRONT WITH PROSEAL PIS 890B
- 14) WET INSTALL MSD070M044 RIVETS
- 15) DOME SEAL ALL BUCKED ENDS OF RIVETS WITH PROSEAL PIS 890B

DATE		15.02.06	DESIGN		ML	PART AEROSPACE LTD	
DE APPR.		DS	DRAWING NO.		D4404	HAMMERSLEY, ONTARIO, CANADA	
APPROVED		HS	REV. H		9 OF 9	SHEET	
MFG. APPR.		DD	SCALE			N/A	
CHECKED		AP	TITLE		TANK ASSEMBLY	CONTRACT NO. 2881 BY PART AEROSPACE LTD	
DRAIN		CC	THIS DOCUMENT IS THE PROPERTY OF PART AEROSPACE LTD. IT IS TO BE KEPT IN THE ORIGINAL UNLESS OTHERWISE SPECIFIED BY THE CUSTOMER. IT IS TO BE RETURNED TO THE ORIGINAL ISSUING OFFICE.				

RELEASED
2015-06-16
Cm

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐ Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐		AGAINST DEPARTMENT/PROCESS		MRB (QS1042) Approval	
Date: _____ Step #: _____		QTY Effective: _____					
Description Work Order Deviation				Disposition			
				Completed By			
				Lead hand / Supervisor Approval Verification			
				QC / QA Coordinator Approval			

Root Cause		FAULT CATEGORY									
Environment	No Re-verification	Pressure/Forced	Temperature/Cure	Power Loss/Surge	Positioned Wrong						
Design	Operator	Bending	Set-up	Folio/Program	Outside Dimensions						
Doc/Data	Offset/Setup	Centre Not Concentric	BOM/Route	Grain	Over/Under tolerance						
Equip/Tooling	Supplier	Cracks	Broken/Damage/Defect	Weld	Part Incorrect						
Handling/Pre	Training	Crimp/Kink/Ripple/Wave	Inspection Incomplete/Unqualified	Wrong Stock Pulled	Part Lost/Missing						
Material	Use for Testing	Cuffs	Contamination	Out of Sequence	Part Moved						
Internal Transport	Poor Information	Crushing	Countersink	Off-set	Drawing						
Tribal Knowledge	Rushing	Heat Treat	Cut Too Short	Mislabeled	Finish						
LOA	Product Improvement	Wave/Twist in Tube	Instructions Incomplete/Unclear	Fit/Function	Misread						
Substation	Process Improvement	Marks/Chatter	Drill Holes	Misaligned/off center	Turning Sequence						
Past Expiry Date	Manufacturing Process										
Misidentified	Past Due										
		OTHER : _____									



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID PO33844

Purchase Order Date 10/4/2016

PO Print Date 10/7/2016

Page Number 1 of 3

Order From :

SKYSERVICE
6120 MIDFIELD ROAD
MISSISSAUGA, ONTARIO L5P 1B1
CANADA

VC-SKY001

Ship To : DART AEROSPACE LTD

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Contact Name

Vendor Phone 905-678-5636

Ship To Contact

Ship To Phone

Ship Via: Delivered

Ship Acct:

Buyer

Customer POID

Customer Tax #

Terms

Currency

FOB

Chantal Lavoie

10127-2607

Net 30

CAD

FCA - (Free Carrier)

Line Nbr	Reference Vendor Part Number Line Comments Delivery Comments	Description/ Mfg ID	Req Date/ Taxable Promise Date	CD	Req Qty/ Unit of Measure	PO Unit Price	Extended Price
1	71401-45	PROCUREMENT QUALITY CLAUSES	10/14/2016 No 10/14/2016		1.00	\$0.00	\$0.00
Procurement Quality Clauses A005 right of entry A012 chemical and physical test report A016 personnel qualification A017 raw material identification (as applicable) A026 certification of material conformance A041 quality management system A042 dart notification by supplier A043 retention of quality documents							
Line Total:							\$0.00
2	145662	D4464-041 fuel tank	10/14/2016 Yes 10/14/2016		1.00	\$0.00	\$0.00
LIQUID PENETRANT INSPECTION AS PER QSI 038 OR LPI AS PER ASTM 1417 LEVEL 2							

Note:

10/7/2016

SP/16-10-11

10

**skyservice****Work Order Traveler**
Sky Service F.B.O. Inc.

DOT APP 53-89 / EASA 145.7142 / BDA AMO 385

WO #: MWO29682	Customer: Dart Aerospace Ltd.	Dept: NDT YUL	Reference: 33844
Descr:	PN:	S/N:	Qty: 1
Make:	Model:	Reg:	A/C S/N:
TSN:	CSN:	TSO:	
Task: UNSCHEDULED			Sequence: 1

Work Required:

CARRY OUT NDT ON 4 CROSSTUBES AND A FUEL TANK ASSY AS PER PO33844

1 FUEL TANK ASSY, ITEM ID# D4464-041, WORK ORDER ID# 145662

2 FWD CROSSTUBES, ITEM ID# D119-796-141, WORK ORDER ID# 150980, 150981

2 AFT CROSSTUBES, ITEM ID# D119-796-241, WORK ORDER ID# 150916, 150917

Action Taken:						Date:	Initial/Stamp:
LPI C/O IAW ASTM E-1417M-13						OCT 07 2016	
LEAK DETECTED ON FUEL TANK ASSY, WORK ORDER: 145662							
REMAINING ITEMS: NO CRACK FOUND							
PEN. ZL-56, MPO13600, CLEANER SKC-S MPO13923, EMU. MPO15896, DEV. MPO11715, UV LIGHT M-20142							
Description	Location	P/N	Qty	Batch	S/N Off	S/N On	

I certified that the maintenance described above has been performed in accordance with the applicable standard of airworthiness.

Signature:	ACA/SCA Stamp: 	Date: OCT 07 2016
Name: RAFIK MELIKIAN		





Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID PO33960

Purchase Order Date 10/18/2016

PO Print Date 10/19/2016

Page Number 1 of 2

Order From :
SKYSERVICE
6120 MIDFIELD ROAD
MISSISSAUGA, ONTARIO L5P 1B1
CANADA

VC-SKY001

Ship To : DART AEROSPACE LTD
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Contact Name
Vendor Phone 905-678-5636

Ship To Contact

Ship To Phone

Ship Via: Delivered

Ship Acct:

Buyer Chantal Lavoie
Customer POID
Customer Tax # 10127-2607
Terms Net 30
Currency CAD
FOB FCA - (Free Carrier)

Line Nbr	Reference Vendor Part Number Line Comments Delivery Comments	Description/ Mfg ID	Req Date/ Taxable Promise Date	CD	Req Qty/ Unit of Measure	PO Unit Price	Extended Price
1	71401-45	procurement quality clauses	10/19/2016 No 10/19/2016		1.00 ✓	\$0.00	\$0.00
	Procurement Quality Clauses A005 right of entry A012 chemical and physical test report A016 personnel qualification A017 raw material identification (as applicable) A026 certification of material conformance A041 quality management system A042 dart notification by supplier A043 retention of quality documents						
2	145662 ✓	D4464-041 FUEL TANK ✓	10/19/2016 Yes 10/19/2016		1.00 ✓	\$0.00	\$0.00
	LIQUID PENETRANT INSPECTION AS PER QSI 038 OR LPI AS PER ASTM 1417 LEVEL 2						
Line Total:							\$0.00
Line Total:							\$0.00

Note:

10/19/2016

SP

SP 10-19

**skyservice****Work Order Traveler**
Sky Service F.B.O. Inc.

DOT APP 53-89 / EASA 145.7142 / BDA AMO 385

WO #: MWO29789	Customer: Dart Aerospace Ltd.	Dept: NDT YUL	Reference: 33960
Descr:	PN:	S/N:	Qty: 1
Make:	Model:	Reg:	A/C S/N:
TSN:	CSN:	TSO:	
Task: UNSCHEDULED			Sequence: 1

Work Required:

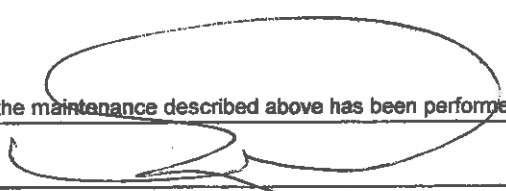
CARRY OUT NDT ON 7 PARTS AS PER PO33960

1 FUEL TANK ASSY, ITEM ID# D4464-041, WORK ORDER ID# 145662

6 COLLECTIVE BELL CRANK, ITEM ID# D212-725-1-007, WORK ORDER ID# 151207

Action Taken:						Date:	Initial/Stamp:
LPI C/O IAW ASTM E-1417M-13 NO CRACK FOUND PEN. ZL-56, MPO13600, CLEANER SKC-S MPO13923, EMU. MPO15896, DEV. MPO11715, UV LIGHT M-20142						OCT 18 2016	 
Description	Location	P/N	Qty	Batch	S/N Off	S/N On	

I certified that the maintenance described above has been performed in accordance with the applicable standard of airworthiness.

Signature: 	ACA/SCA Stamp 	Date: OCT 18 2016
Name: RAFIK MELIKIAN		

